

IN THE CLAIMS

Please cancel claims 2, 5, 7, 14-16 and amend claims 1 and 10 as follows:

1. (Twice Amended) A dry etching method comprising the steps of,

preparing a semiconductor wafer which comprises a semiconductor body, a plurality of gate electrodes formed on a main surface of said semiconductor body, a nitride film formed to cover said gate electrodes on said main surface, an oxide film formed to cover said nitride film on said main surface, and a mask film having a hole pattern formed on said oxide film, said hole pattern exposing a surface portion of said oxide film located between said gate electrodes;

disposing said wafer in an etching treatment chamber;

introducing CF group gas, Ar gas and one gas selected from O₂, SF₆, CF₄ and SiF₄ into said etching treatment chamber under a reduced pressure;

generating electromagnetic waves and a magnetic field in an etching treatment chamber under vacuum,

generating plasma by electron-cyclotron resonance, and

etching said surface portion of said oxide film in said hole pattern in said etching treatment chamber, wherein

a distance between an antenna which is arranged in said etching treatment chamber and injects the electromagnetic waves, and said wafer is set at a value in the range from 30 mm to 100 mm,

the frequency of said electromagnetic waves is set at a value in the range from 300 MHz to 600 MHz,

a magnetic field gradient is set,

two kinds of electronic temperature regions are generated between said antenna and the wafer,

an etching treatment is performed in a condition, that a gas pressure in said etching treatment chamber is in the range from 0.1 Pa to 4 Pa,

generating F (fluorine radicals) and ions corresponding to CF_2 in said plasma, each amount of which is independent from each other, and

performing said etching treatment.

10. (Twice Amended) A dry etching method comprising the steps of:

preparing a wafer which comprises a substrate, a plurality of gate electrodes formed on a main surface of said substrate, a first film containing nitrogen formed to cover said gate electrodes on said main surface, a second film containing oxygen formed to cover said first film on said main

surface, and a mask film having a hole pattern formed on said second film, said hole pattern exposing a surface portion of said second film located between said gate electrodes;

disposing said wafer in an etching treatment chamber;

introducing CF group gas, Ar gas, and one gas selected from O_2 , SF_6 , CF_4 and SiF_4 into said etching treatment chamber under vacuum,

generating electromagnetic waves and a magnetic field in said etching treatment chamber,

generating plasma by electron-cyclotron resonance, and

performing an etching treatment with said wafer, wherein

a distance between a wafer facing plane, which is arranged in said etching treatment chamber, and said wafer is set at a value in the range from 30 mm to 100 mm,

a magnetic field gradient is determined by setting the frequency of said electromagnetic waves at a value in the range from 300 MHz to 600 MHz,

two kinds of electronic temperature regions are generated between said wafer facing plane and said wafer, [and]